ENTIDADE
REGULADORA DOS
SERVIÇOS ENERGÉTICOS

DESIGN AND REGULATION OF THE EU ENERGY MARKET

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Entidade Reguladora dos Serviços Energéticos

4th EU/US Energy Regulators' Roundtable

Lisboa, May 12-13, 2003

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DESIGN AND REGULATION OF THE EU ENERGY MARKET

1. REMINDER

2. BUILDING THE EU ENERGY MARKET

3. LIBERALIZATION OF THE EU ENERGY MARKETS

4. INTEGRATION OF THE EU ENERGY MARKETS

5. PRESENT SITUATION

6. REGULATION BY CO-OPERATION

REMINDER

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EU	USA
NO COMMON ENERGY POLICY	**ENERGY POLICY ACT**
NO EU ENERGY REGULATOR	**FERC** **(FEDERAL ENERGY REGULATORY COMMISSION)**
15 → 25 NATIONAL REGULATORS	**50 STATE REGULATORS**

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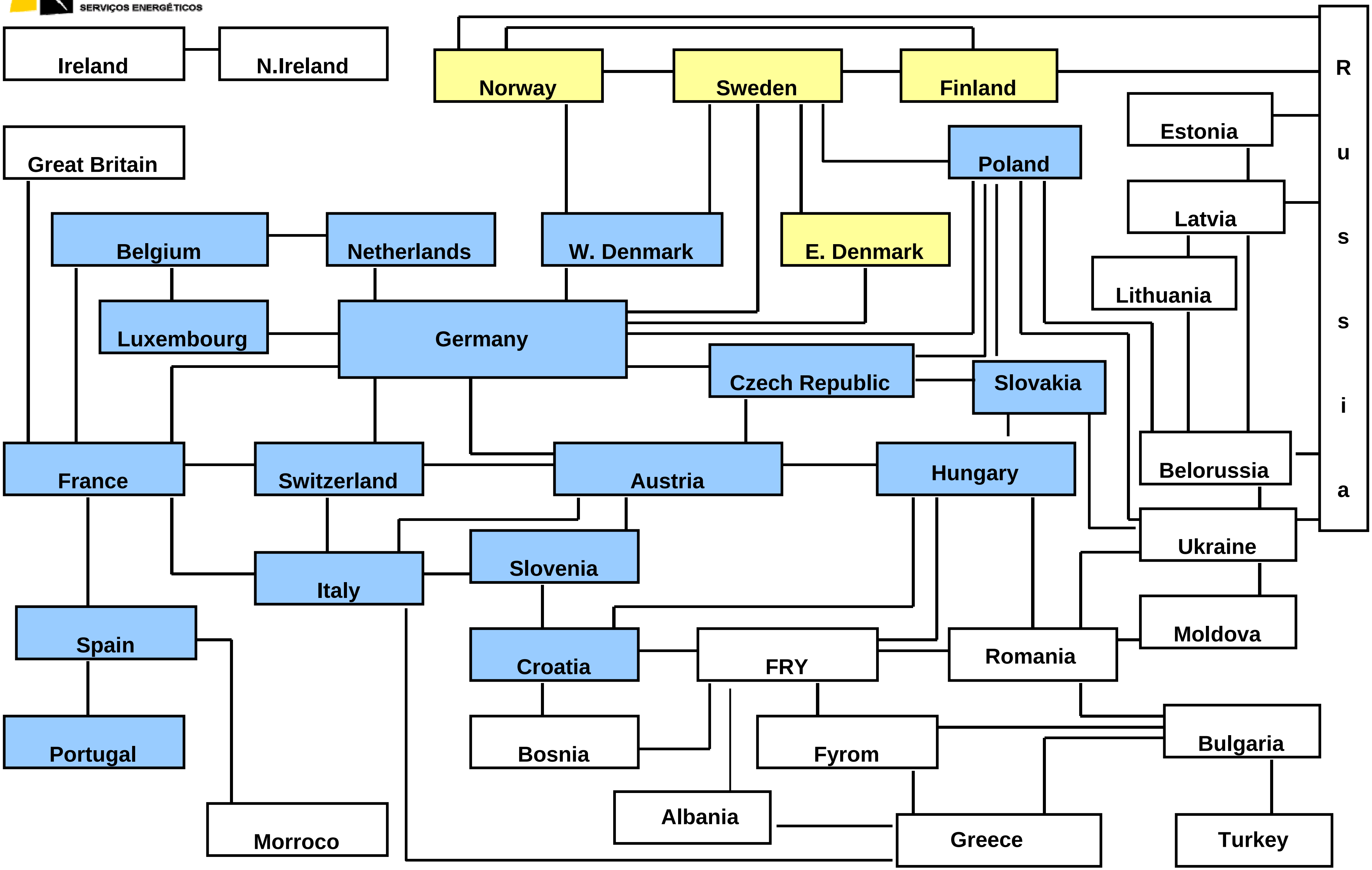
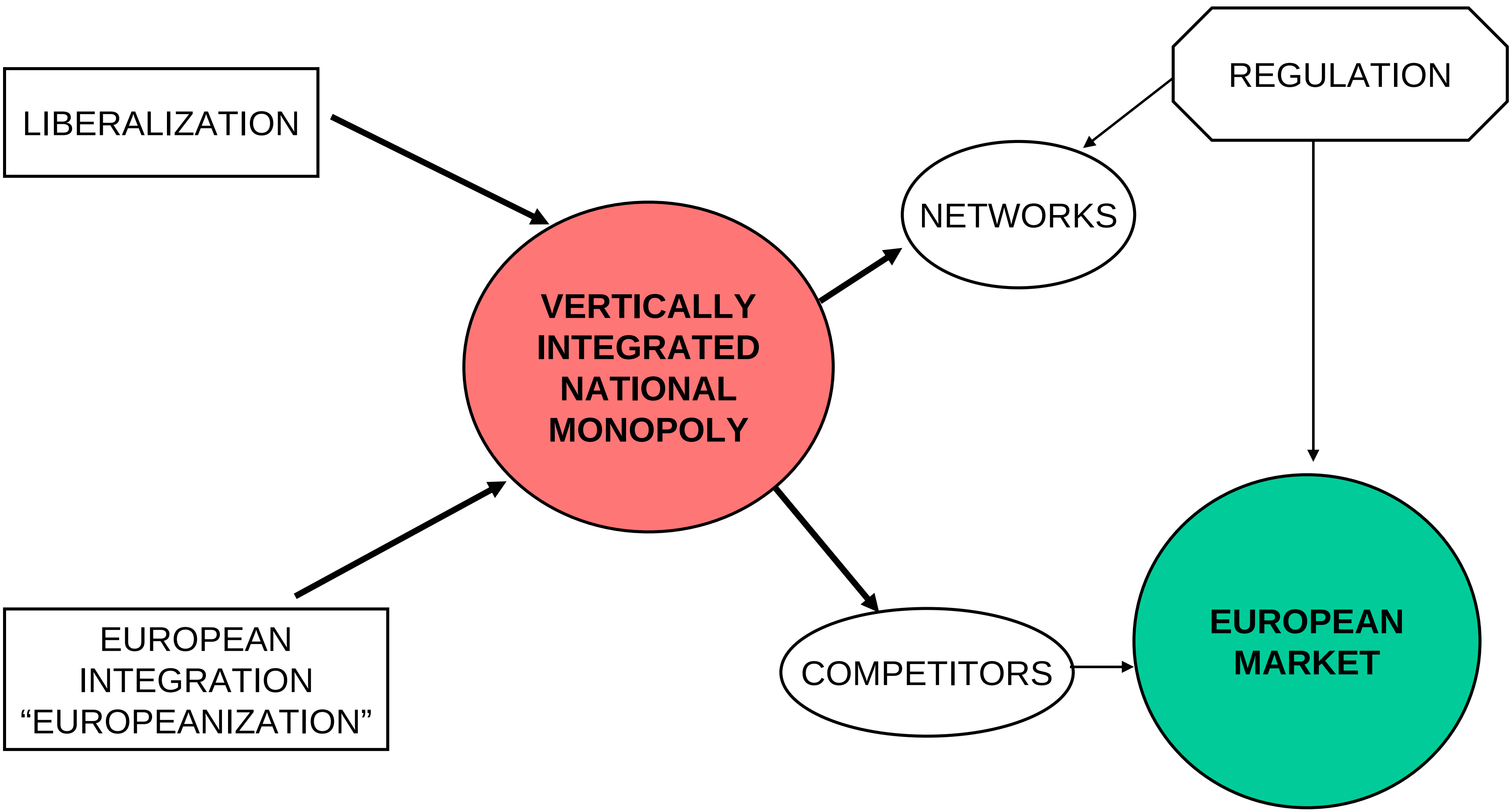
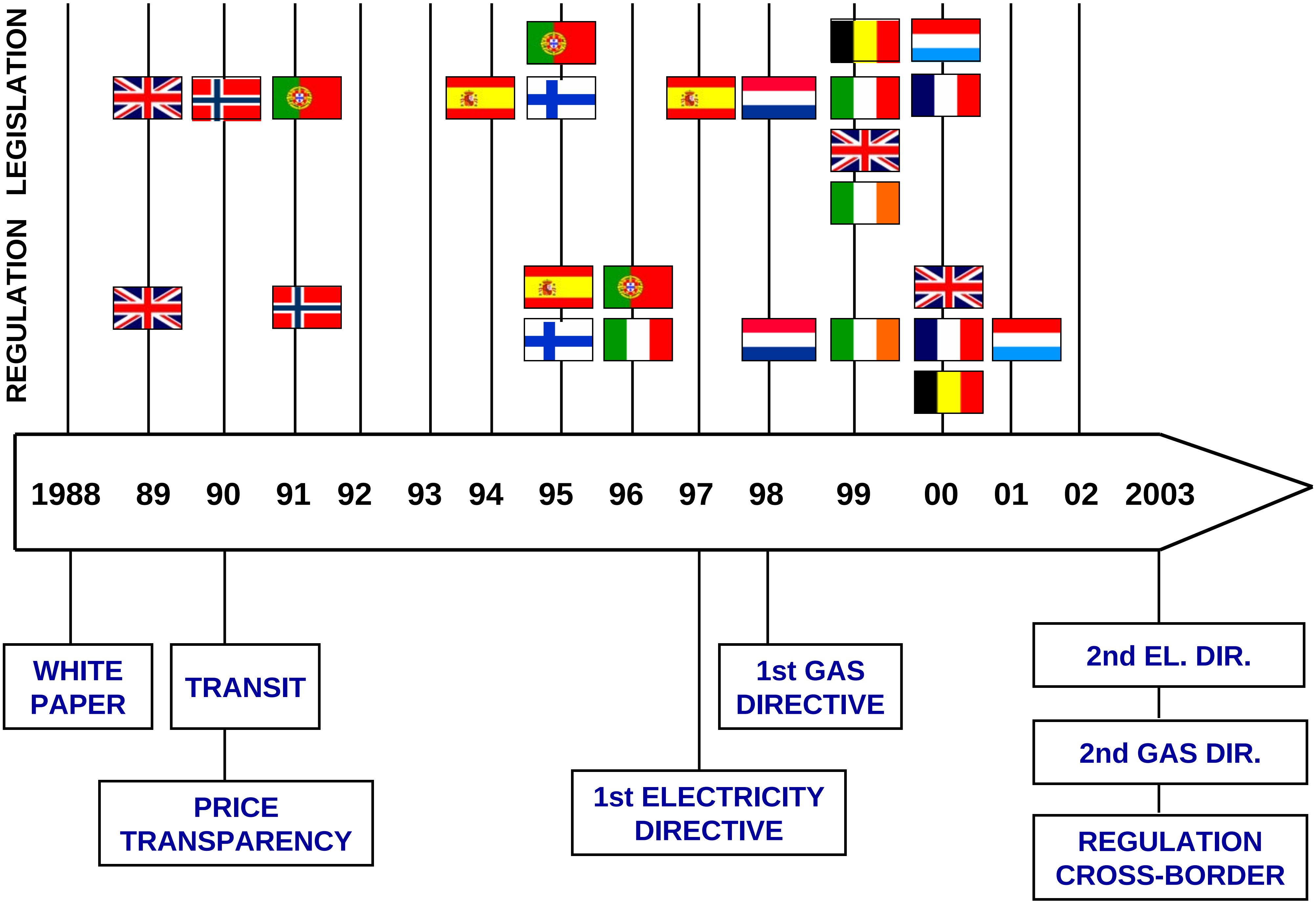


BUILDING THE EU ENERGY MARKET


LIBERALIZATION
VERTICALLY INTEGRATED NATIONAL MONOPOLY
EUROPEAN INTEGRATION "EUROPEANIZATION"
REGULATION
NETWORKS
COMPETITORS
EUROPEAN MARKET


LEGISLATION
REGULATION
1988
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2003
WHITE PAPER
TRANSIT
PRICE TRANSPARENCY
1st ELECTRICITY DIRECTIVE
1st GAS DIRECTIVE
2nd EL. DIR.
2nd GAS DIR.
REGULATION CROSS-BORDER

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TOWARDS THE EUROPEAN ELECTRICITY MARKET

		1996 DIRECTIVE	2003 DIRECTIVE
GENERATION	MONOPOLY →	AUTHORISATION TENDERING →	AUTHORISATION (TENDERING)
TRANSMISSION DISTRIBUTION	MONOPOLY →	REGULATED TPA NEGOTIATED TPA → SINGLE BUYER	REGULATED TPA
SUPPLY	MONOPOLY →	FREE →	FREE
CUSTOMERS	NO CHOICE →	CHOICE FOR → ELIGIBLE (≈ 1/3)	ALL NON-HOUSEHOLD (2004) ALL (2007)
UNBUNDLING T / D	NONE →	ACCOUNTS →	LEGAL
CROSS-BORDER TRADE	MONOPOLY →	NEGOTIATED →	REGULATED

LIBERALIZATION OF THE

EU ENERGY MARKETS

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VERTICALLY-INTEGRATED MONOPOLY

GENERATION
TRANSMISSION
DISTRIBUTION
SUPPLY

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UNBUNDLING

GENERATION

TRANSMISSION

DISTRIBUTION

SUPPLY

UNBUNDLING:

ACCOUNTS

↓

ORGANISATION

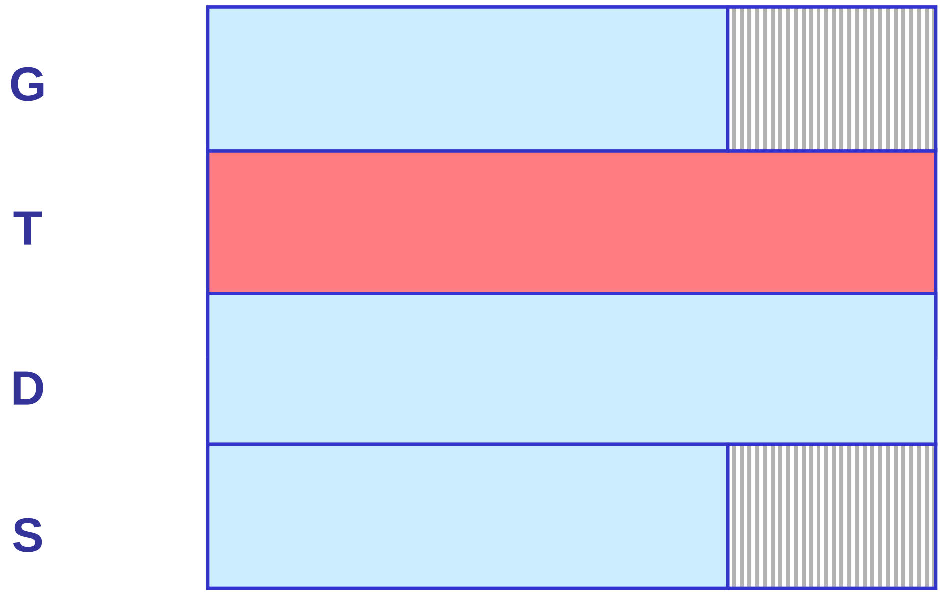
↓

LEGAL

↓

OWNERSHIP

OPENING UP MARKETS



MINIMUM	**≈**	**33%**
ACTUAL	**≈**	**80%**
2007	**=**	**100%**

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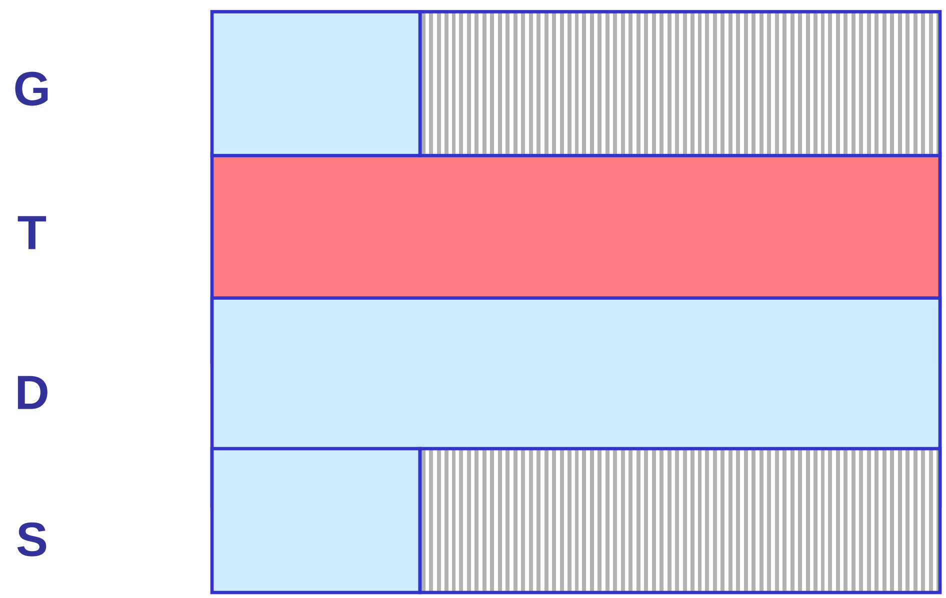
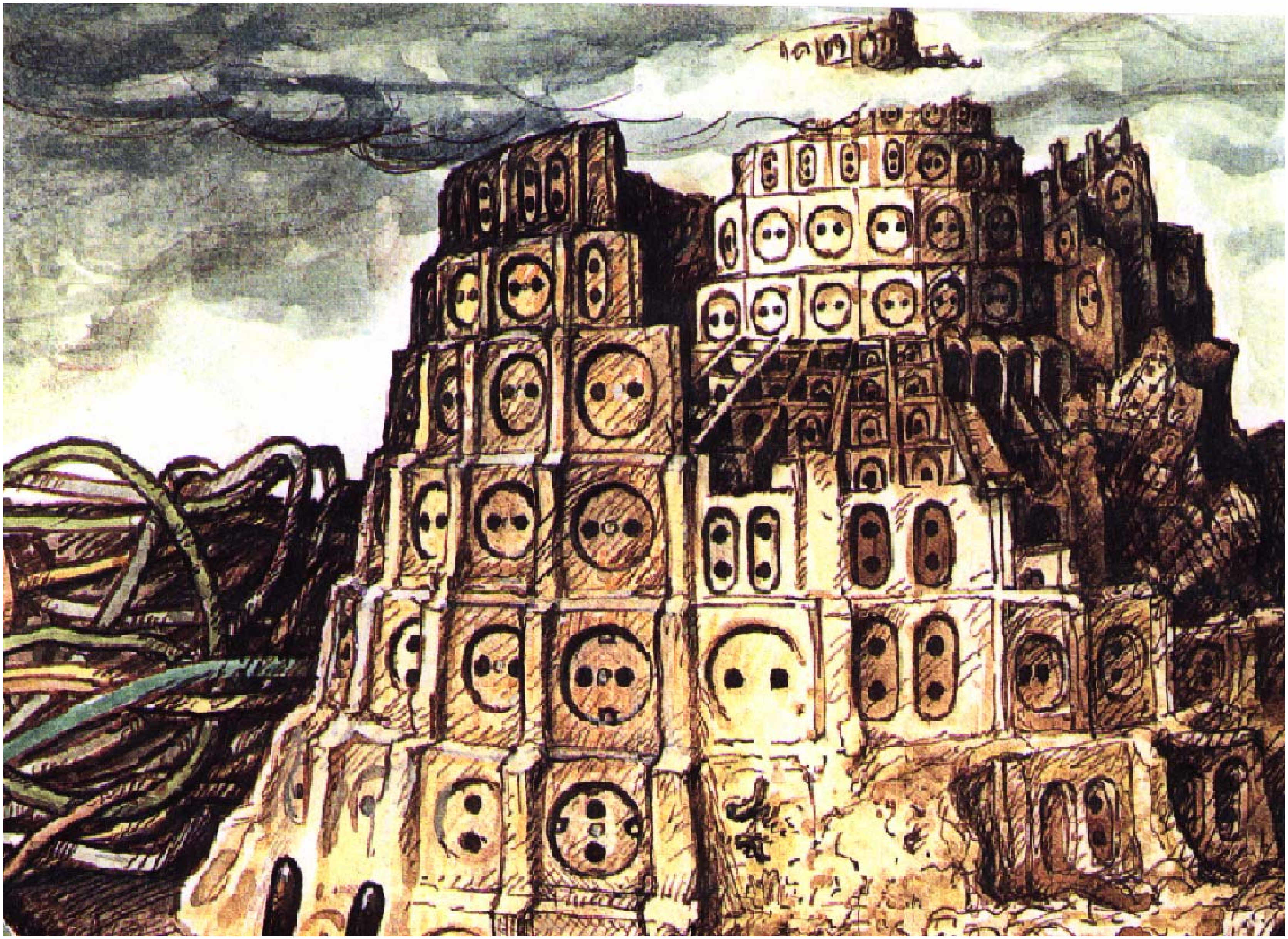
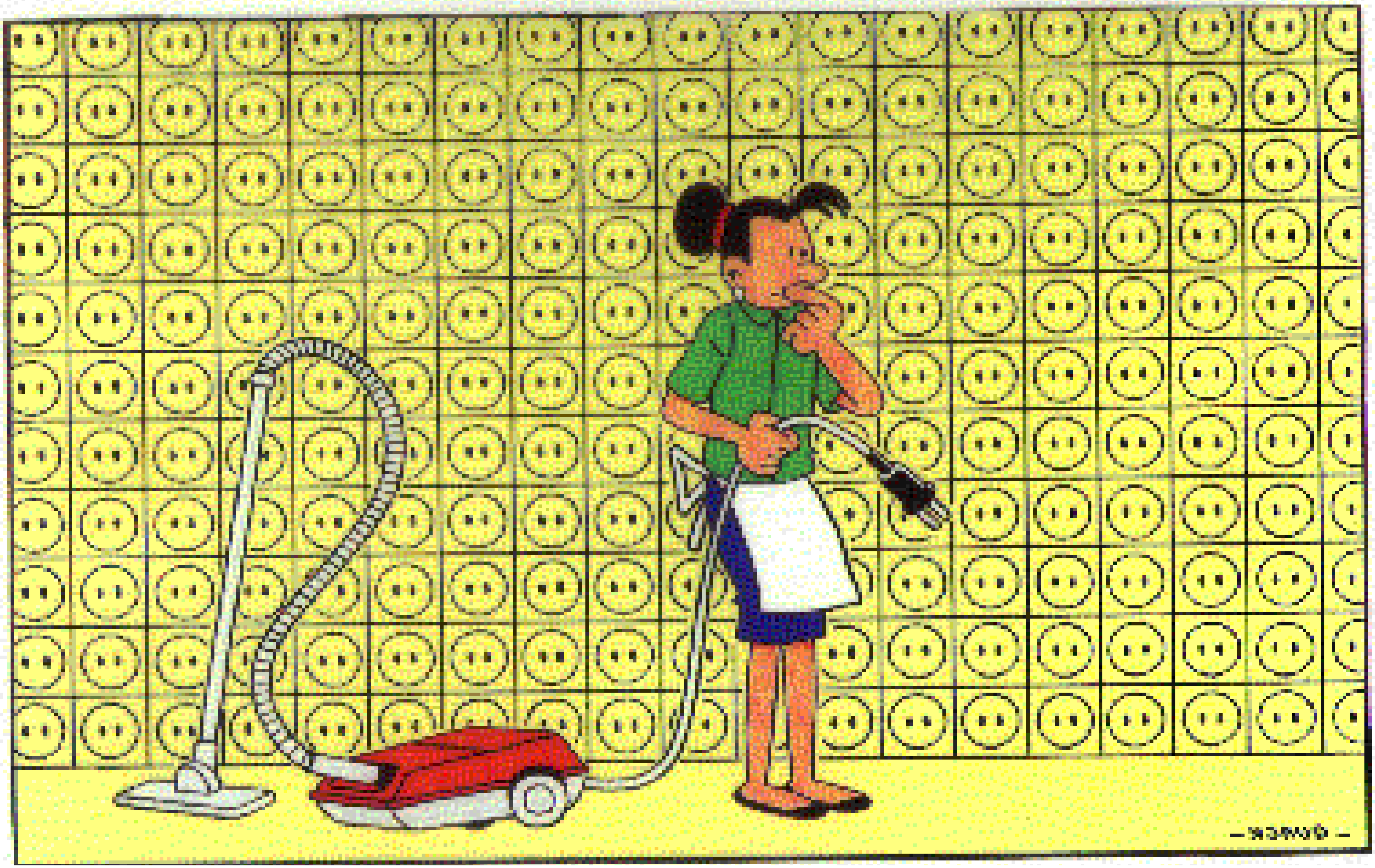
COMPETITION







INTEGRATION OF THE

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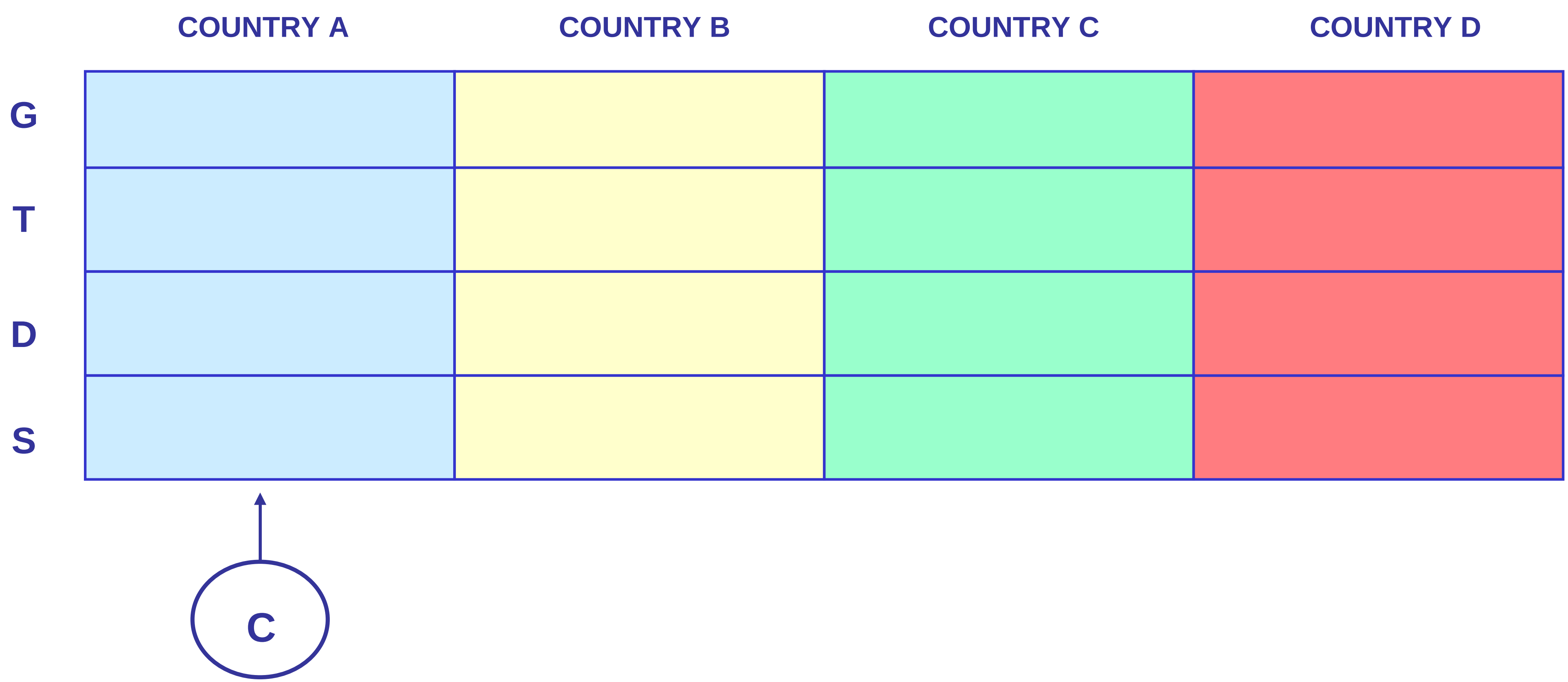
REGIONAL MARKET INTEGRATION

(1)



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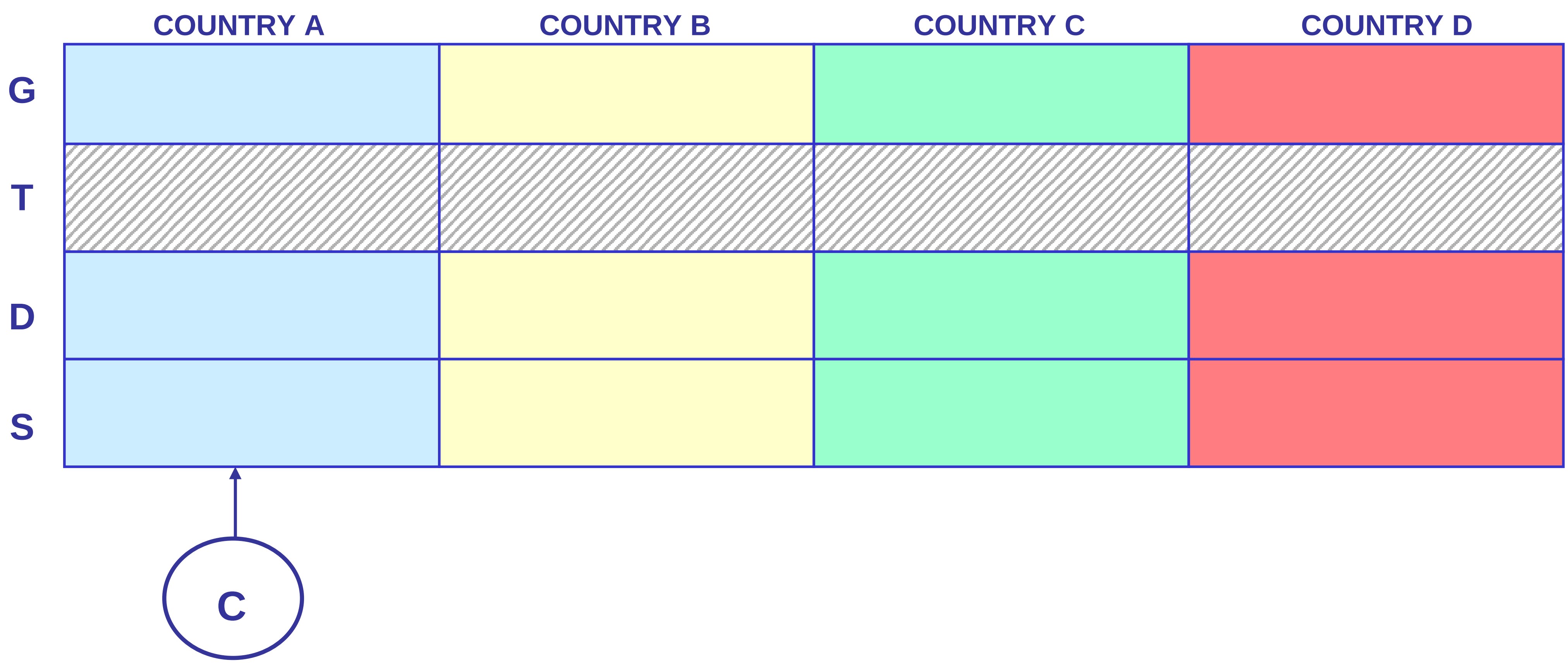
REGIONAL MARKET INTEGRATION
(2)



REGIONAL MARKET INTEGRATION

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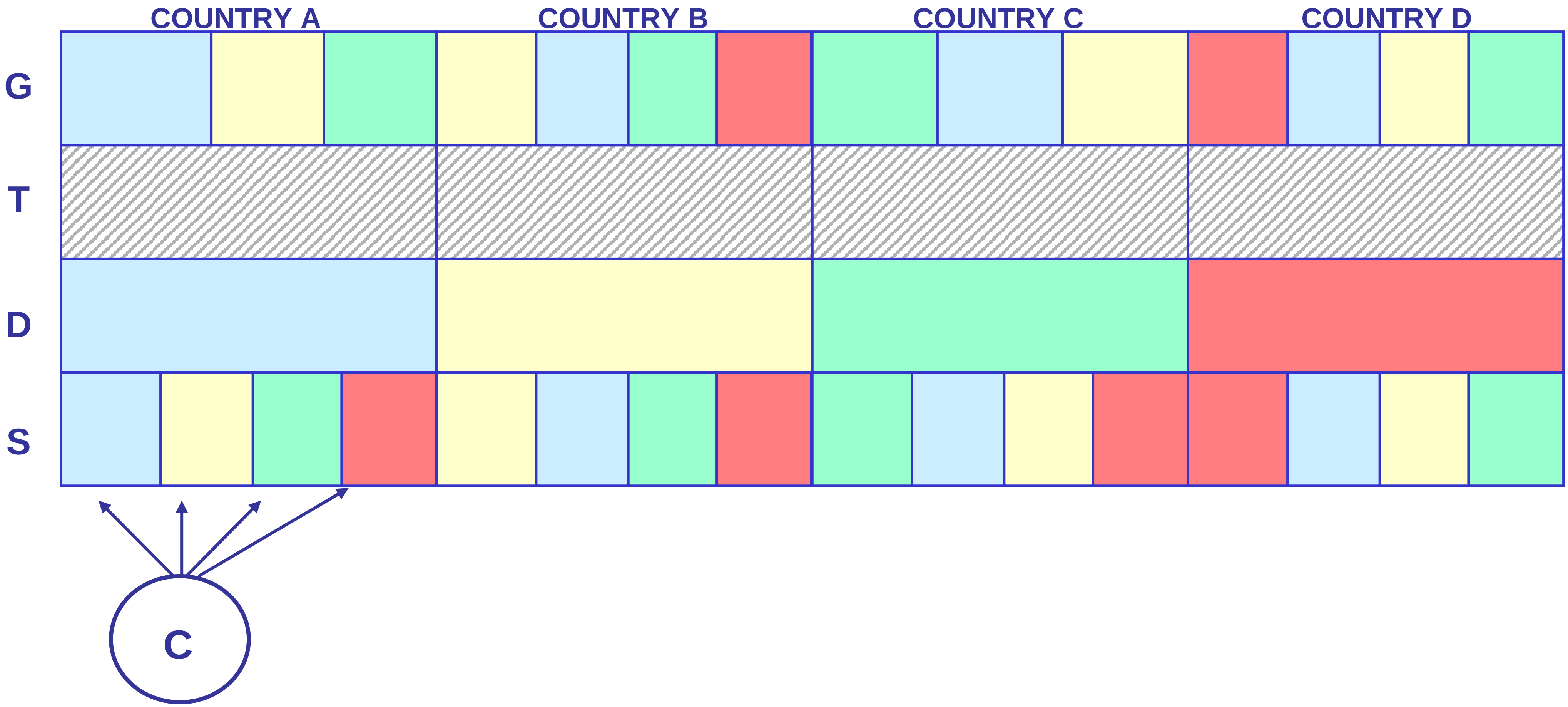

REGIONAL MARKET INTEGRATION

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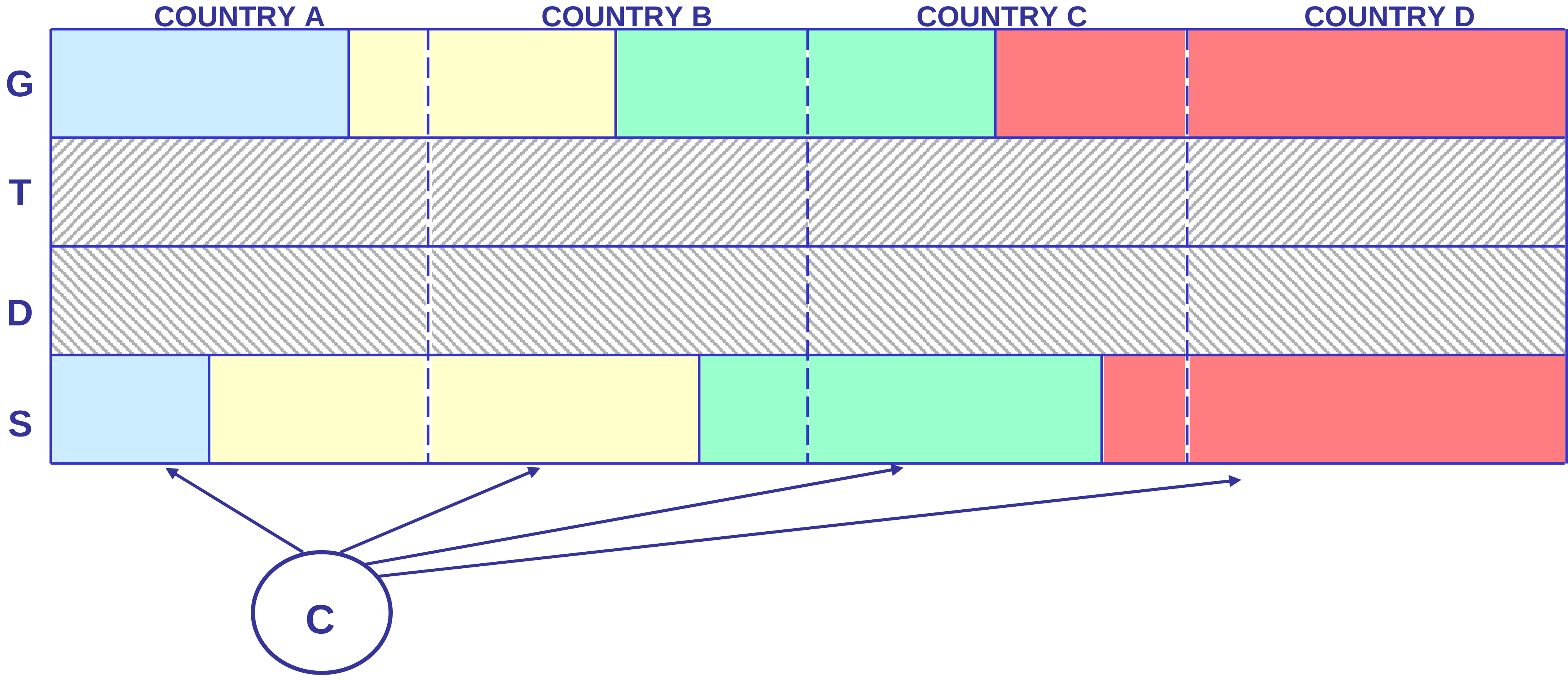

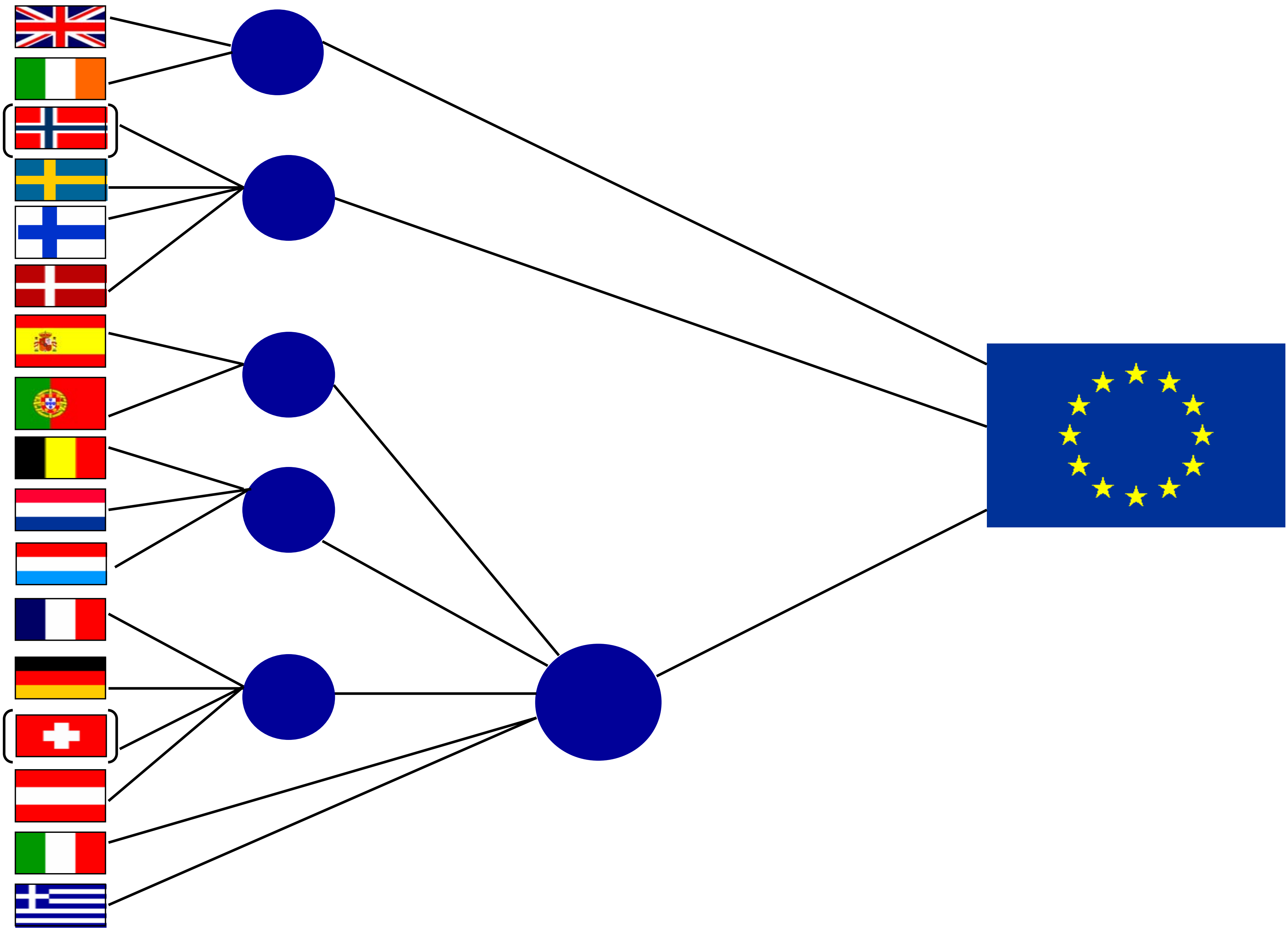

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MAIN CHALLENGES:

- TECHNICAL

- ECONOMIC

- INSTITUTIONAL

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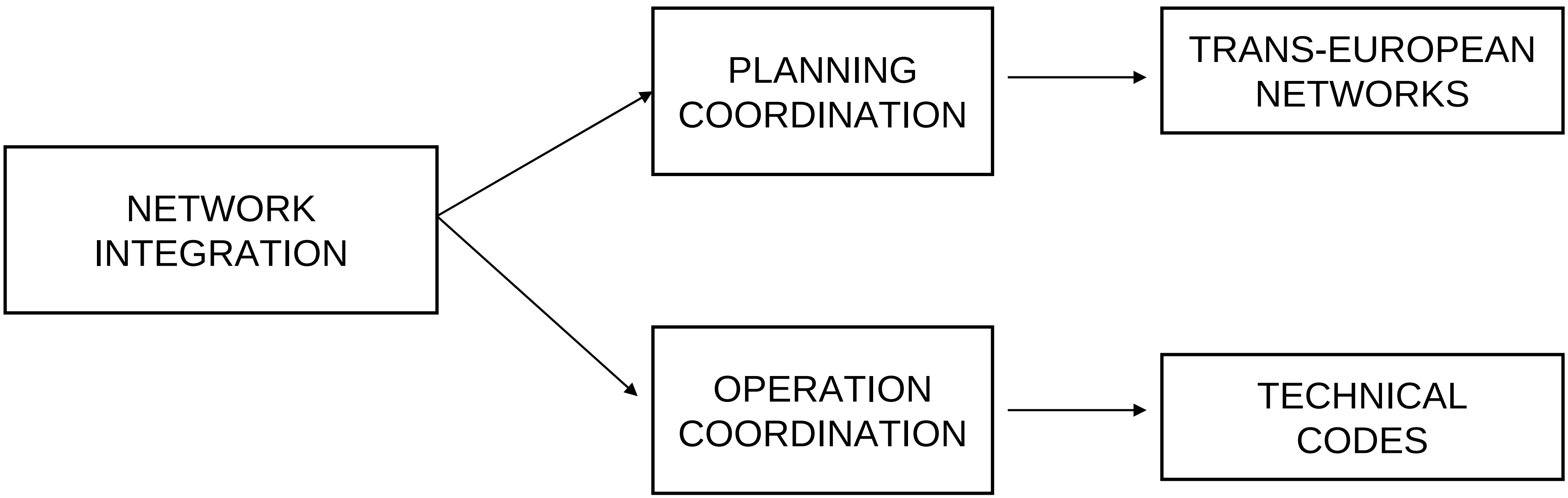
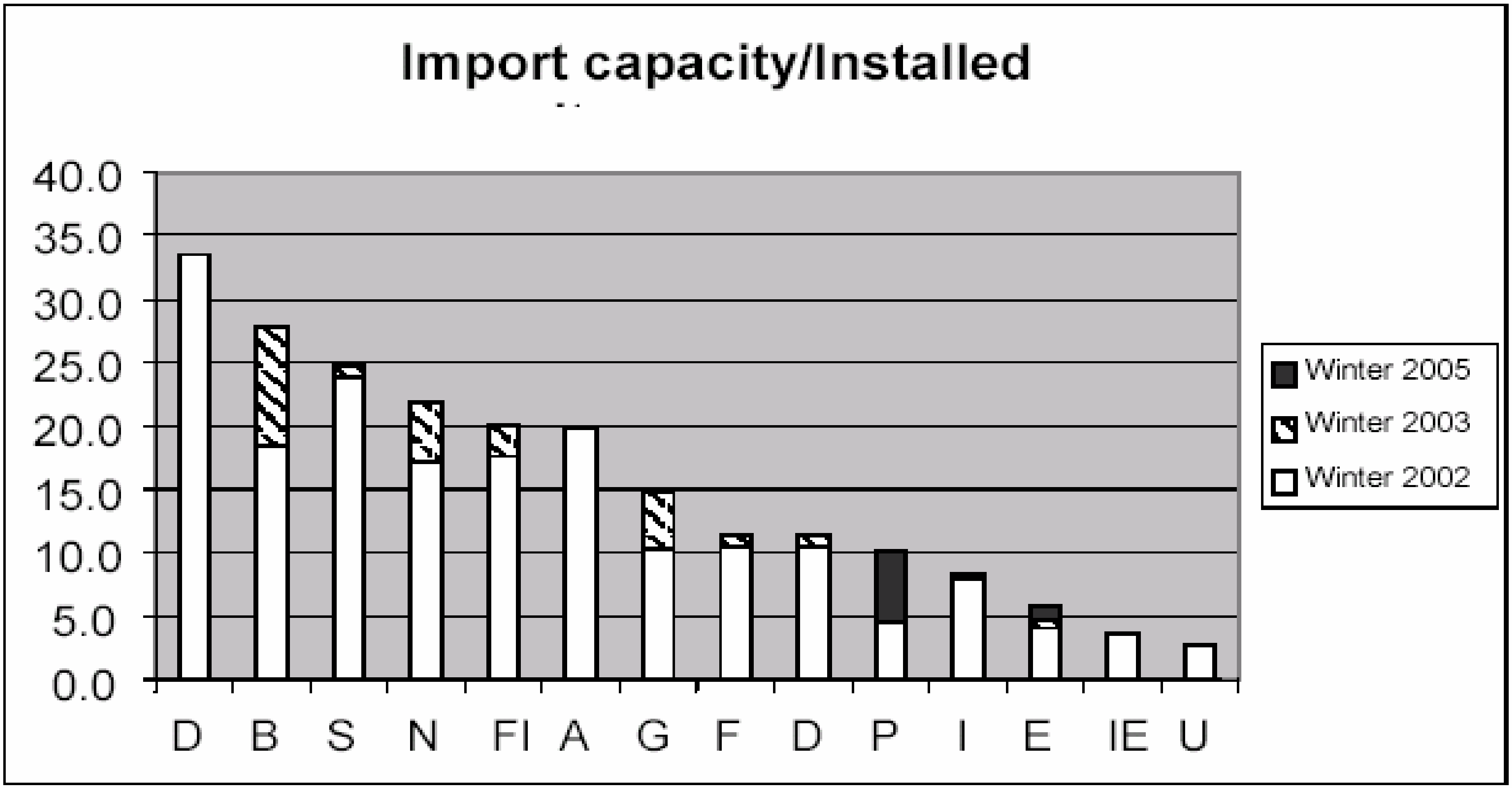


Ratio of electricity import capacity/total installed capacity



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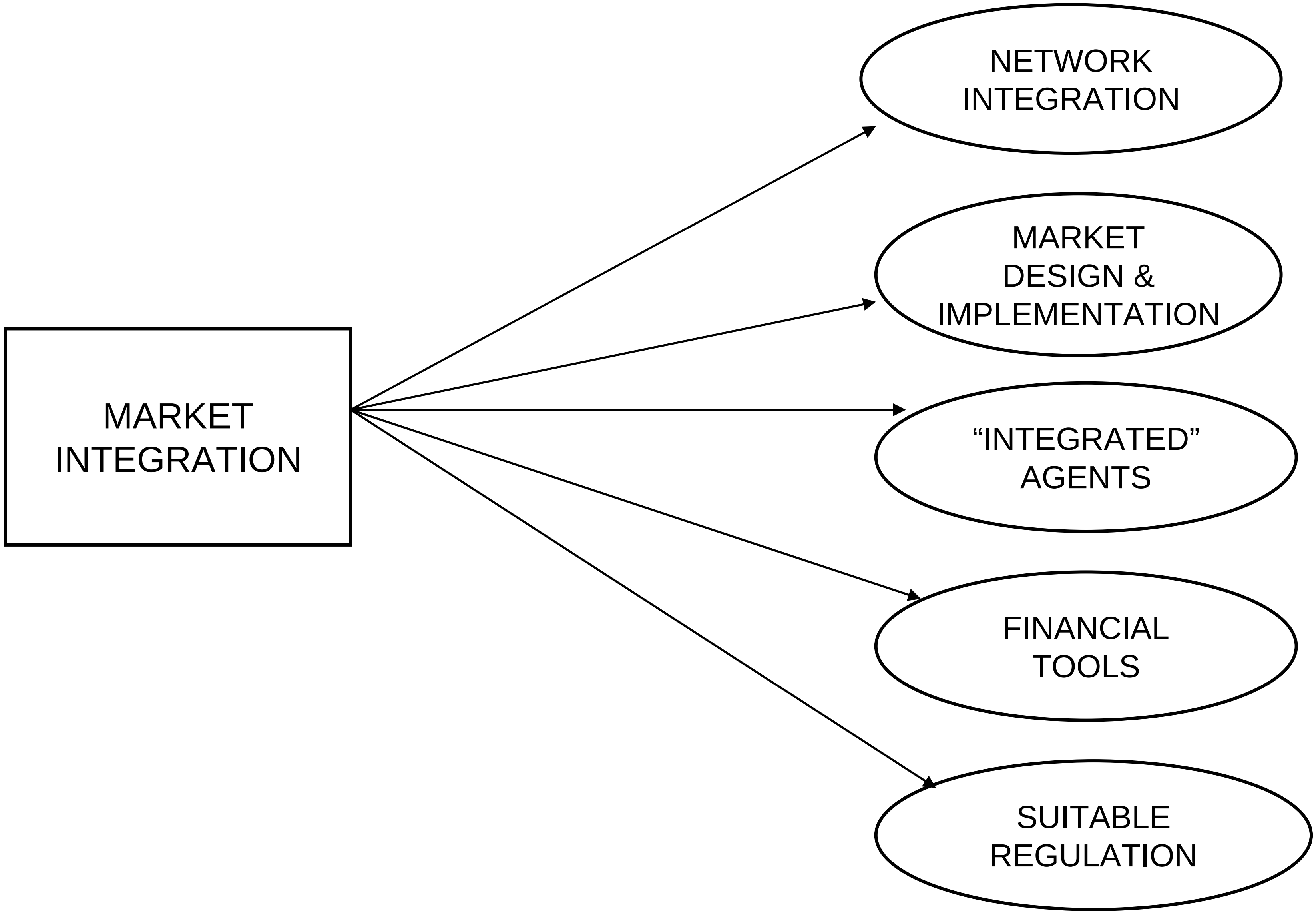

PRESENT SITUATION

Measures Adopted by Member States in Implementing the Directives

	Electricity						Gas					
	Market opening	size of open market TWh	eligibility threshold	100% in/by	Unbundling transmission	Network access	Market opening	size of open market bcm	eligibility threshold	100% in/by	Unbundling transmission	Network access
Austria	100%	52	-	2001	Legal	Reg.	100%	7.0	-	2003	Legal	Reg.
Belgium[7]	52%	40	1/10GWh	2003/7	Legal	Reg.	59%	8.5	5mcm	2003/6	Legal	Reg.
Denmark	**100%**	32	-	2003	Legal	Reg.	35%	1.7	25mcm	2004	Legal	Reg.
Finland	100%	75	-	1997	Ownership	Reg.	Derogation[8]					
France	**37%**	131	**7 GWh**	**2007**	Management	Reg.	20%	7.5	25mcm	**2007**	Accounts	**Reg.**
Germany	100%	483	-	1999	Legal[9]	Neg.	100%	77.0	-	2000	Accounts	Neg.
Greece	34%	15	1kV	**2007**	Legal\Mgmt	Reg.	Derogation					
Ireland	**56%**	8	**0.1 GWh**	2005	Legal\Mgmt	Reg.	82%	3.0	2 mcm	2005	Management	Reg.
Italy	**70%**	191	**0.1 GWh**	**2007**	Own\Legal.	Reg.	**100%**	62.1	-	2003	Legal	Reg.
Luxembourg	57%	3	20 GWh	**2007**	Management	Reg.	72%	0.5	15mcm	**2007**	Accounts	Reg.
Netherlands	63%	62	3*80 A	2003	Ownership	Reg.	60%	22.3	1 mcm	2003	Management	Hybrid
Portugal	45%	17	1kV	**2004**	Legal	Reg.	Derogation					
Spain	**100%**	188	-	2003	Ownership	Reg.	**100%**	12.9	-	2003	Ownership[10]	Reg.
Sweden	100%	129	-	1998	Ownership	Reg.	47%	0.4	35mcm	2006	Accounts	Reg.
UK	100%[11]	330	-	1998	Ownership	Reg.	100%	93.8	-	1998	Ownership	Reg.

7 The lower thresholds and earlier opening dates refer to the Flanders region only.

8 There is a monopoly in Finland for the import of gas, all of which is imported from Russia, but a secondary market exists.

9 Though not required in the German Energy Law, German TSOs have unbundled legally on a voluntary basis

10 **Gas Natural retains a c.40% share and is the largest shareholder in Enagas, the TSO**

11 In Northern Ireland the electricity market is only 35% open.

	Electricity						Gas					
	Market opening	size of open market TWh	eligibility threshold	100% in/by	Unbundling transmission	Network access	Market opening	size of open market bcm	eligibility threshold	100% in/by	Unbundling transmission	Network access
Candidate Countries												
Estonia	10%	1	40GWh		Management	Reg.	80%	0.7	'industry'		Account	Reg
Latvia	11%	1	40GWh		Legal	Reg.	0%	0.0	-		Account	Neg
Lithuania	26%	1	20GWh		Legal	Reg.	80%	2.1	15mcm		Account	Reg
Poland[12]	51%	71	10GWh		Legal	Reg.	34%	4.1	25mcm		None	Reg
Czech R	30%	20	40GWh		Legal	Reg.	0%	0.0	-		Account	Hybrid
Slovakia	41%	11	40GWh		Legal	Reg.	33%	2.5	25mcm		Account	Reg.[13]
Hungary	30-35%	13	6.5GWh		Accounts	Reg.	0%	0.0	-		Management	Reg
Slovenia	64%	7	41kW		Legal	Reg.	50%	0.5	25mcm		Account	Neg
Romania	33%	15	40GWh		Legal	Reg.	25%	4.0	5mcm		Legal	Reg.
Bulgaria[14]	15%	6	100GWh		Accounts	Reg.	73%	2.3	80 mcm		Account	Reg.
Turkey	23%	23	9GWh		Legal	Reg.	80%	12.4	1mcm		Account	Reg.
Cyprus	-	0			Management	Reg.						
Malta	-	0			Derogation	S. Buyer						

12 Currently open for domestic production only

13 Negotiated for transit

14 The Bulgarian gas market is only open for domestic production

Market Development Indicators: Concentration and New Entry

	Companies with at least 5% share of installed capacity **2000 data**	Top 3 share (% installed capacity)[16] **2000 data**	Installed generation capacity (GW) a	Import capacity ATC (GW) b	import capacity as % of installed capacity b ÷ a	Expected new capacity in next 3 years (% installed capacity)	Power exchange Y/N
Austria	5[17]	45%	18.2	**3.9**	**21%**	2%	Y
Belgium	2	96%(2)	15.7	**3.9**	**25%**	1%	N
Denmark	3	78%	12.7	**3.7**	**29%**	10%	Y
Finland	4	45%	16.2	**3.0**	**19%**	1%	Y
France	1	92%	115.4	**13.6**	**12%**	0%	Y
Germany	4	64%	118.3	**11.1**	**9%**	1%	Y
Greece	1	97%(1)	10.3	**1.1**	**11%**	34%	N
Ireland	1	97%(1)	4.8	**0.2**	**5%**	17%	N
Italy	4	69%	71.3	**6.1**	**8%**	8%	(Y)
Lux	n.a.	n.a.	1.2	**1.2**	**100%**	n.a.	N
Neth	6	59%	21.0	**4.5**	**21%**	3%	Y
Portugal	3	82%	10.7	**0.9**	**8%**	5%	(Y)
Spain	4	83%	52.6	**2.1**	**4%**	9%	Y
Sweden	3	90%	32.7	**6.7**	**21%**	n.a.	Y
UK	8	36%	78.9	**2.1**	**3%**	4%	Y

	Companies with at least 5% share of installed capacity **2000 data**	Top 3 share (% installed capacity)[16] **2000 data**	Installed generation capacity (GW) a	Import capacity ATC (GW) b	import capacity as % of installed capacity b ÷ a	Expected new capacity in next 3 years (% installed capacity)	Power exchange Y/N
Estonia	1	98% (1)	3.1	2.0	75%	not examined in this report	N
Latvia	1	95% (1)	2.0	3.6	>100%		N
Lithuania	2	98% (2)	6.1	3.1	50%		Y
Poland	6	47%	34.6	2.7	8%		Y
Czech R	1	77%	14.3	2.2	15%		Y
Slovakia	2	90%	7.4	2.8	38%		N
Hungary	5	unknown	unknown	6.0	unknown		N
Slovenia	2	90%	2.7	2.2	80%		Y
Romania	3	70%	21.9	1.0	4%		Y
Bulgaria	7	61%	10.2	2.2	20%		N
Turkey	2	65%	28.3	1.9	7%		N
Cyprus	1	100%	0.9	-	-		N
Malta	1	100%	0.5	-	-		N

Source: Eurostat: Competition Indicators in Electricity Market and survey responses

Market shares retail supply

	Number licensed suppliers	Number of suppliers independent of DSO	Number with market share > 5% **2000 data**[18]	Top 3 suppliers' share (all consumers)[19] **2000 data**	Large eligible industrial users[20]		Small commercial/ domestic		Estimated total switch (TWh)
					switch	switch or reneg	switch	switch or reneg	
Austria	40	6	7	67% (7)	20-30%	unknown	5-10%	unknown	8
Belgium	16	16	3	53%	2-5%	30-50%	not eligible		2
Denmark	70	6	3	38%	>50%	>80%	not eligible		5
Finland	80	9	3	33%	unknown	>50%	5-10%	10-20%	24
France	225	41	1	90%+ (1)	10-20%	unknown	not eligible		20
Germany	c.1200	200	3	50%	20-30%	>50%	5-10%	10-20%	74
Greece	7	6	1	100% (1)	nil.	nil.	not eligible		0
Ireland	19	18	1	90%+ (1)	10-20%	unknown	not eligible		1
Italy	170	135	2	72% (2)	>50%	100%	not eligible		71
Lux	2	0	2	100% (2)	10-20%	>50%	not eligible		1
Neth	33	15	7	48%	20-30%	100%	not eligible		10
Portugal	11	10	1	99% (1)	5-10%	unknown	not eligible		1
Spain	149	unknown	4	94%	10-20%	>50%	not eligible		13
Sweden	120	20	3	47%	unknown	100%	10-20%	>50%	39
UK	59	59	8	42%	>50%	100%	30-50%	n.a.	140

18 more recent data for 2001 suggests increases in DK to 6, FI to 4, IT to 4, UK to 10 suppliers with 5% share

19 includes both eligible and non-eligible markets

20 note that the eligibility threshold differs considerably between Member States.

Candidate Countries					
Estonia	78	0	2	not examined in this report	not examined in this report
Latvia	12	5	unknown		
Lithuania	18	11	3		
Poland	289	255	4		
Czech R	8	0	8		
Slovakia	16	13	6		
Hungary	6	0	unknown		
Slovenia	26	21	5		
Romania	43	34	9		
Bulgaria	8	0	7		
Turkey	12	0	unknown		
Cyprus	1	0	1		
Malta	1	0	1		
Source: Eurostat: Competition Indicators in Electricity Market, Survey Responses					

Electricity Security of Supply

	Security of Supply Position 2002				Measures to Encourage Peak Capacity			
	amount of reserve generating capacity[30]	import capacity (% of peak consumption)	% p.a. increase in peak load	increase in capacity by 2004 (GW)	Market based	Incentives e.g. capacity payments	Obligation on TSO or supplier	Tender by Regulator or TSO
Austria	34%	45%	+2.1%	0.4	x			
Belgium	2%	31%	+2.1%	0.2			x	
Denmark					x			
Finland					unknown			
France	16%	19%	+1.9%	0.4	x			
Germany	5%	15%	+0.5%	0.8	x			
Greece	7%	13%	+3.2%	1.2				(x)
Italy	9%	12%	+3.7%	5.7		(x)		
Ireland	-2%	6%	+3.0%	0.8		x		(x)
Luxembourg	-	100%	+2.8%	0.0	n.a.			
Netherlands	7%	28%	+3.0%	0.7			x	
Portugal	13%	13%	+4.0%	0.5		x		
Spain	16%	7%	+3.1%	4.6		x		
Sweden							x	
UK	12%	3%	+1.0%	5.0	x			
Nordel	1%	5%	+0.8%	6.0				

30 According to UCTE definition of "remaining capacity" = "guaranteed capacity" minus "load at 11 am" minus "margin against peak load", as a percentage of "load at 11am" plus " margin against peak load": Power Balance of UCTE: Forecast 2002-04

Average wholesale prices (€/MWh)

	FR	DE	AT	NL	Nordel	Spain	UK
Jan 2002 0700-2300	34.1	35.3		35.7	25.7	71.4	38.4
Jan 2002 2300-0700	21.5	19.0		15.8	22.1	43.0	25.7
July 2002 0700-2300	24.1	28.6	29.5	30.6	16.4	51.9	21.4
July 2002 2300-0700	13.2	12.1	**12.7**	11.3	14.0	33.8	12.1

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EU MARKET INTEGRATION:

HOW FAST WILL A NEW INDUSTRIAL STRUCTURE EMERGE

AND

HOW EFFICIENT AND COMPETITIVE WILL IT BE

?

REGULATION BY CO-OPERATION

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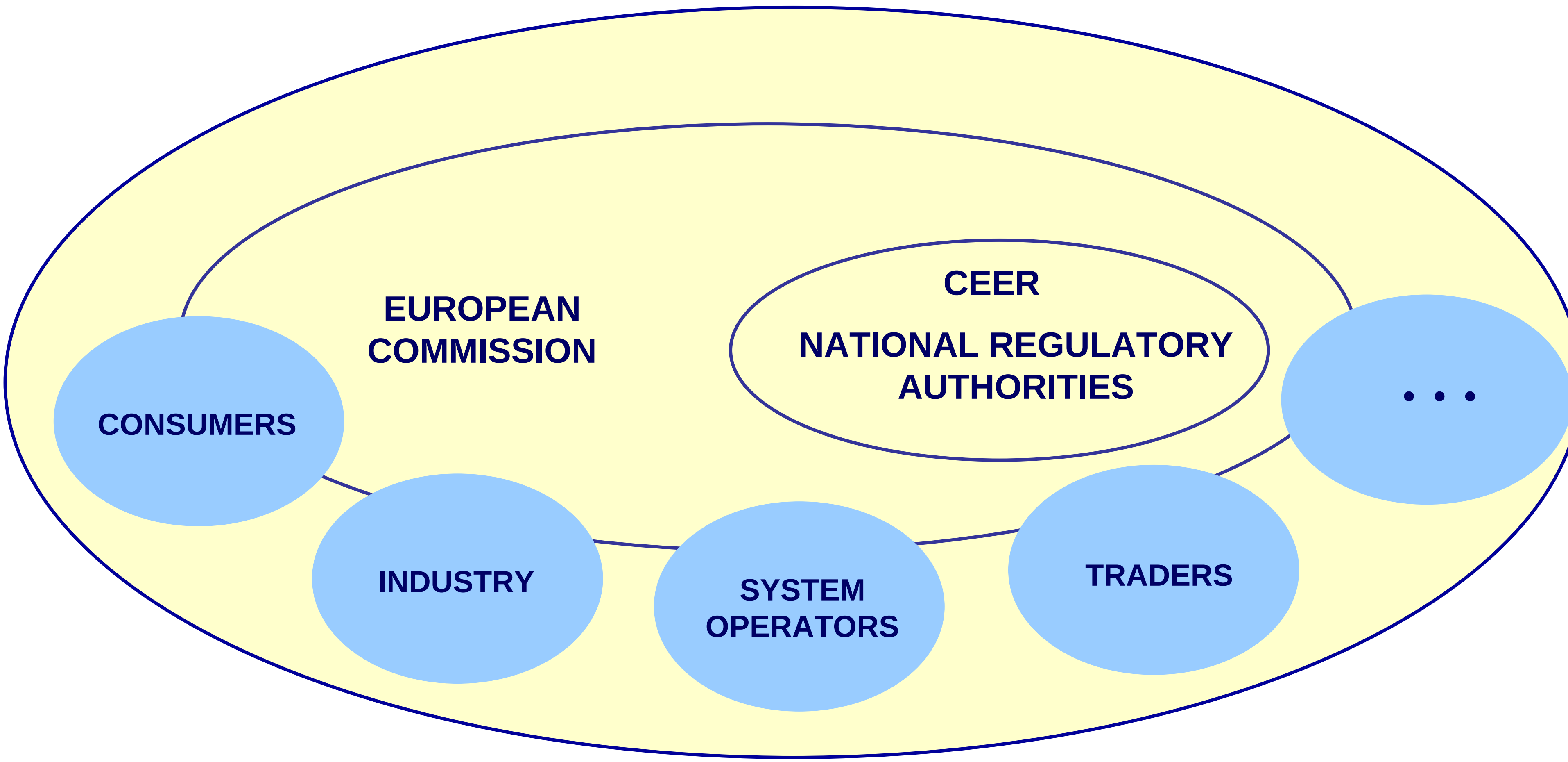
THE EUROPEAN MODEL:

REGULATION BY CO-OPERATION



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EU MARKET REGULATION:

BOTTOM UP (CEER → CEER + EUROPEAN COMMISSION)

OR

TOP DOWN (EUROPEAN COMMISSION)

?

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“ [T]he key normative problem of the regulatory state is how agency indepedency and democratic accountability can be made complementary and mutually reinforcing rather than antithetical values.

(...) When (...) a system of multiple controls works properly , no one controls an agency, yet the agency is ‘under control’ ”

Giandomenico Majone

“ From the positive to the regulatory state: causes and consequences of changes in the mode of governance “.

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